

### **REMARKS**

In view of the following remarks, the Examiner is requested to allow Claims 1-3, 5-6, 8 and 10-29, the only claims pending and under examination in this application.

The Examiner is thanked for the interview held with the undersigned on September 7, 2006. During the interview the art recognized differences between ostoblasts and osteoclasts were discussed, and BMP-2 was distinguished from osteoclastogenic agents. The Examiner appeared to acknowledge that osteoclastogenic agents as claimed are different from BMP-2 and other osteoinductive factors. Potential amendments to the claims to expedite allowance of the application were also discussed. It is believed that the above paragraph provides an accurate summary of the interview.

Claim 1 has been amended to clarify that the flowable composition is one that goes from a non-solid state to a solid state following setting. Support for this amendment is found in the specification at page 10, lines 18-22. Similar amendments have been made to other independent claims. These amendments have been made solely in order to expedite allowance of the present application. In addition, Claim 5 has been amended to make the wording of the claim consistent with Claim 1 in view of the previous cancellation of Claim 4.

New Claims 30-34 have been introduced. These claims specify that the osteoclastogenic agent is a modulator of the RANK mediated osteoclastogenesis induction pathway, support for this amendment being found in previously pending Claim 4 (and Claim 4 has correspondingly been canceled). In addition, the objected to language in Claims 6, 8 and 19 has been deleted, and Claim 9 has been cancelled. As the above amendments introduce no new matter, their entry by the examiner is respectfully requested.

***Claim Rejections - § 112***

Claims 6, 9 and 19 have been rejected under 35 U.S.C. § 112, first paragraph. In view of the above amendments, this rejection may be withdrawn.

Claims 6, 8, 9 and 19 have been rejected under 35 U.S.C. § 112, second paragraph. In view of the above amendments, this rejection may be withdrawn.

***Claim Rejections - § 103(a)***

Claims 1-29 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Chow *et al.* (USPN 5,525,148) in view of Koide and Constantz and King and Chow and Constantz.

According to the MPEP § 706.02 (j), to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

An element of the rejected claims is an osteoclastogenic agent.

In making this rejection, the Examiner first looks to Chow's suggestion that calcium phosphate cements may include an osteoinductive factor, such as a bone morphogenic protein. The Examiner couples this statement with Koide which teaches that when BMP-2 is applied to cocultures of bone marrow cells and osteoblast like cells in the presence of IL-1alpha, that OCL (osteoclast-like multinucleated cell) formation was enhanced.

As such, Koide teaches a mechanism in which BMP-2 is acting on osteoblasts which then release factors that cause OCL formation.

In making the instant rejection the Examiner interprets the term "osteoclastogenic agent" as claimed to be synonymous with the term "osteoinductive factor." However, this interpretation is not correct. As set forth above, an osteoinductive factor is one that acts on osteoblasts to release factors. An osteoclastogenic agent acts directly on precursor cells to cause differentiation of such cells into osteoclasts. Accordingly, osteoinductive factors and osteoclastogenic agents function in different ways and should not be considered synonymous.

The combined teaching does not teach one of skill in the art to employ an osteoclastogenic factor as claimed. One reading Chow in view of Koide and the remaining supplemental references would employ an agent that acts on osteoblasts, and not on precursor cells to cause the cells to differentiate into osteoclasts.

The methods taught by the Applicants are contrary to the conventional approach because rather than acting on osteoblasts, the Applicants' methods use an agent that causes precursor cells to differentiate into osteoclasts.

The Applicants, therefore, respectfully request the 35 U.S.C. § 103(a) rejection of Claims 1-29 be withdrawn.

Newly presented Claims 30-34 are patentable for at least the reasons provided above.

**CONCLUSION**

The Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number SKEL-008.

Respectfully submitted,  
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